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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,056	11/19/2003	Palanisamy Arjunan	2002B169/2	7205
23455	7590	06/09/2005	EXAMINER	
EXXONMOBIL CHEMICAL COMPANY 5200 BAYWAY DRIVE P.O. BOX 2149 BAYTOWN, TX 77522-2149			RABAGO, ROBERTO	
			ART UNIT	PAPER NUMBER
			1713	

DATE MAILED: 06/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

15

Office Action Summary	Application No. 10/717,056	Applicant(s) ARJUNAN, PALANISAMY	
	Examiner Roberto Rábago	Art Unit 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 20-48 is/are rejected.
- 7) ☒ Claim(s) 19 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/19/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

20

DETAILED ACTION

1. The instant claims recite a process of preparing “branched” polypropylene (PP), but have not specifically stated the intended scope of “branched.” Normal PP will have one methyl branch for each monomer unit incorporated into the polymer chain; however, applicants have distinguished branched from “linear” PP (see spec. at [0020] – [0021]) and therefore the scope of “branched” PP is understood to be PP which has additional branches other than methyl. Applicants have further stated that the branching must be detectable quantitatively or qualitatively (see specification at [0021]), and therefore the scope would not include branching which is below the detection limit of quantitative or qualitative polymer analysis procedures. Accordingly, the claims are examined using a scope of “branched” meaning that the PP must have a detectable quantity of groups bonded to the PP chain which are other than hydrogen or methyl.

Information Disclosure Statement

2. Applicants are advised that consideration of documents listed in their IDS which are not in the English language have been considered solely on the basis of attached English abstracts or applicants’ specific discussion thereof in the specification.

Claim Objections

3. Claims 27 and 29 are objected to for the following reasons.

In claim 27 both occurrences of “dimethylsilylbis” are misspelled.

Art Unit: 1713

In claim 29, "methylluminoxane" is misspelled.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 25-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 25-29 recite the limitation "the supported metallocene". There is insufficient antecedent basis for this limitation in the claims.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-18, 20-27 and 29-47 are rejected under 35 U.S.C. 102(e) as being anticipated by Agarwal et al. (US 20020013440).

The reference discloses in Examples 1-9 the preparation of polypropylene comprising small amounts of 1,9-decadiene, the polymerization occurring in essentially

Art Unit: 1713

bulk propylene at 70°C or 74°C in the presence of hydrogen, cocatalyst and metallocene. Regarding reaction at 70°C, the recited temperature anticipates the range “greater than 70°C” because in the process of thermostating a polymerization reactor at 70°C, the temperature will necessarily exceed 70°C (at least infinitesimally) during the temperature control feedback cycle. The reference has not measured heat of fusion, syndio- or isotacticity, or branching index; however, the required values would be inherent in view of the high melting and crystallization temperatures and the diene comonomer. The burden of proof is shifted to applicants to show that the reference examples do not have the required undisclosed properties.

Regarding elevated temperature ranges set forth in claims 9-11, one of ordinary skill in the art would immediately envisage these ranges because they comprise a substantial fraction of the range suggested in the reference. Specifically, the broadest range suggested amounts to 0°C to 150°C, with 50°C to 80°C being a preferred range (see [0080]); therefore, the claimed ranges of 75°C or higher, 80°C or higher, or 90°C or higher would be immediately envisaged in view of the disclosed range.

8. Claims 1, 5, 7-10, 21-24, 29, 34-43, 47 and 48 are rejected under 35 U.S.C. 102(e) as being anticipated by Debras et al. (EP 1195391).

The reference shows in Examples 1-3 the making of branched isotactic and syndiotactic homopolypropylene using metallocene catalyst and MAO at 80°C and 30 bar in what appears to be a slurry polymerization. The reference has not measured heat of fusion or branching index; however, these properties would appear to be

Art Unit: 1713

inherent in view of highly isotactic/syndiotactic structure and the expressly stated purpose to make a polypropylene with branches. The burden of proof is shifted to applicants to show that the reference examples do not have the required undisclosed properties.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Agarwal et al. (US 20020013440).

The parent claims are discussed with respect to this reference above.

Alternative conventional activators are suggested at [0073]. One of ordinary skill in the art would be motivated to use these alternative embodiments because patentee has suggested such use.

Allowable Subject Matter

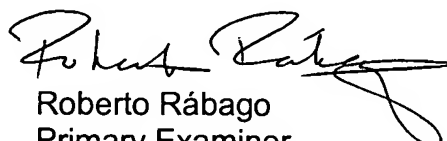
11. Claim 19 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 1713

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberto Rábago whose telephone number is (571) 272-1109. The examiner can normally be reached on Monday - Friday from 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Roberto Rábago
Primary Examiner
Art Unit 1713

RR
June 2, 2005